

Amendments to the Claims

1. (Currently Amended) A physical packet services node within a telecommunications network, comprising:

a first logical communications node operated by a first service provider as an independent packet services node of the first service provider that can process multiple, concurrent service requests for customers of the first service provider;

a second logical communications node operated by a second service provider as an independent packet services node of the second service provider that can process multiple, concurrent service requests for customers of the second service provider; and

common resources including at least switch fabric, respective portions of said common resources being dedicated to said first and second logical communications nodes, each of said respective portions being dynamically configured in respective customized manners by said first and second service providers.

2. (Previously Presented) The physical packet services node of Claim 1, wherein the portion of said common resources allocated to said first logical communications node is dynamically and customarily reconfigured by said first service provider.

3. (Canceled).

4. (Previously Presented) The physical packet services node of Claim 1, wherein said common resources include a line board.

5. (Previously Presented) The physical packet services node of Claim 4, wherein the line board includes optical and electrical signal processing and handling components, and the handling components including at least one of transceivers, optical splitters, optical/electrical converters, optical delays, electronic controllers, wavelength converters, and a high speed optical/electrical switching element.

6. (Previously Presented) The physical packet services node of Claim 1, wherein said common resources include traffic processor boards.

7. (Previously Presented) The physical packet services node of Claim 1, wherein said common resources include software resources.

8. (Canceled).

9. (Previously Presented) The physical packet services node of Claim 1, further comprising:

a firewall providing private and secure separation between said first logical communications node and said second logical communications node.

10. (Previously Presented) The physical packet services node of Claim 1, wherein said second logical communications node is a master communications node and the second service provider is an operator of the physical packet services node, the master communications node being configured to manage and allocate said common resources to said first logical communications node.

11. (Previously Presented) The physical packet services node of Claim 1, wherein the physical packet services node is an internet protocol (IP)-based router or switch, optical switch with IP awareness or a voice softswitch.

12. (Canceled).

13. (Currently Amended) A system for sharing and optimizing resources between service providers within a telecommunications network, comprising:

    a first and second service providers, each capable of providing telecommunications services to respective end users; and

    a unified and integrated switch within the telecommunications network and having a respective physical interface to each of said first service provider and said second service provider, said unified and integrated switch including a first logical communications node operated by said first service provider as an independent packet services node of said first service provider that can process multiple, concurrent service requests for said end users of said first service provider and a second logical communications node operated by said second service provider as an independent packet services node of said second service provider that can process multiple, concurrent service requests for said end users of said second service provider, said first logical communications node having a first portion of common resources within said unified and integrated switch dedicated thereto, the first portion of the common resources being configured by said first service provider, said second logical communications node having a second portion of the common resources dedicated thereto that is configured by said second service provider;

wherein said common resources includes at least switch fabric.

14. (Original) The system of Claim 13, wherein the first portion of the common resources is dynamically and customarily reconfigured and allocated to the first logical communications node by said first service provider.

15. (Canceled).

16. (Previously Presented) The system of Claim 13, wherein the second logical communications node is a master communications node and said second service provider is an operator of said unified and integrated switch, said master communications node being configured to manage and allocate the common resources to the first logical communications node.

17. (Original) The system of Claim 16, wherein the master communications node is connected to additional master communications nodes on respective unified and integrated switches on the telecommunications network.

18. (Previously Presented) The system of Claim 13, wherein said unified and integrated switch further includes a logical interface between the first logical communications node and the second logical communications node.

19 - 24. (Canceled).

25. (Previously Presented) The physical packet services node of Claim 1, wherein at least one of the first and second service providers adds, removes or modifies hardware within said common resources to customize said respective first or second logical communications node.

26. (Previously Presented) The physical packet services node of Claim 1, wherein each of the first and second service providers customizes said respective first and second logical communications node to operate as one of an IP router, ATM switch, voice soft switch or an optical switch.

27. (Previously Presented) The physical packet services node of Claim 1, wherein said common resources are partitioned between said first and second logical communications nodes based on respective contracts between the first and second service providers and a wholesale provider managing said physical packet services node that reflect business needs of the first and second service providers, availability of said common resources and price for said respective logical communications nodes.

28. (Previously Presented) The physical packet services node of Claim 27, wherein each of the respective contracts reflects a business interaction process between the respective first or second service provider and the wholesale provider that includes a service requisition phase, a service processing phase, a service fulfillment phase and a service conclusion phase.